

# TC-W190/W300

## SERVICE MANUAL

*US Model*

*TC-W190*

*US Model*

*Canadian Model*

*AEP Model*

*UK Model*

*TC-W300*



Photo : TC-W300

### SPECIFICATIONS

Recording system 4-track 2-channel stereo

Fast-forward and rewind time

Approx. 90 sec. (with C-60 cassette)

Bias AC bias

Signal-to-noise ratio (NAB, at peak level)

Dolby NR switch	OFF	B-TYPE ON	C-TYPE ON (TC-W300)
Cassette			
TYPE IV (Sony METAL-ES)	58 dB	65 dB	71 dB
TYPE II (Sony UX-S)	56 dB	63 dB	69 dB
TYPE I (Sony HF-S)	54 dB	61 dB	67 dB

Total harmonic distortion

1.0% (with Sony METAL-ES cassettes)

Frequency response (DOLBY NR OFF)

TYPE IV cassette (Sony METAL-ES)	30–15,000 Hz ( $\pm 3$ dB, DIN) 30–13,000 Hz (0VU recording)
TYPE II cassette (Sony UX-S)	30–14,000 Hz ( $\pm 3$ dB, DIN)
TYPE I cassette (Sony HF-S)	30–13,000 Hz ( $\pm 3$ dB, DIN)

Wow and flutter 0.12% WRMS (NAB)

$\pm 0.2\%$  (DIN)

Inputs

Line inputs (phono jacks)	Sensitivity	77.5 mV ( $-20$ dB)
	Input impedance	50 k ohms

Outputs

Line outputs (phono jacks)	Rated output level	0.44 V ( $-5$ dB) at a load impedance 47 k ohms
	Load impedance	Over 10 k ohms
Headphone output (stereo phone jack)	Output level	0.28 mW at a load impedance of 32 ohms

General

Power requirements

US, Canadian model: 120 V AC, 60 Hz

AEP model: 220 V AC, 50/60 Hz

UK model: 240 V AC, 50/60 Hz

Power consumption

15 W

Dimensions

Approx. 430  $\times$  117.5  $\times$  250 mm (w/h/d)

(17  $\times$  4  $\frac{3}{4}$   $\times$  9  $\frac{7}{8}$  inches)

including projecting parts and controls

Weight

Approx. 3.4 kg (7 lbs 8 oz)

Supplied accessories

Audio connecting cord (2)



STEREO CASSETTE DECK  
**SONY**®

## SAFETY CHECK-OUT

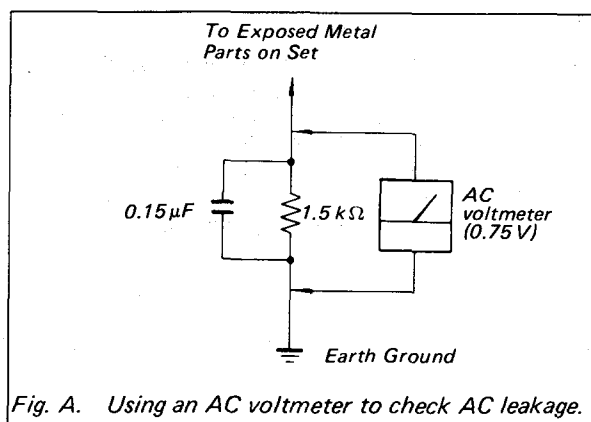
After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

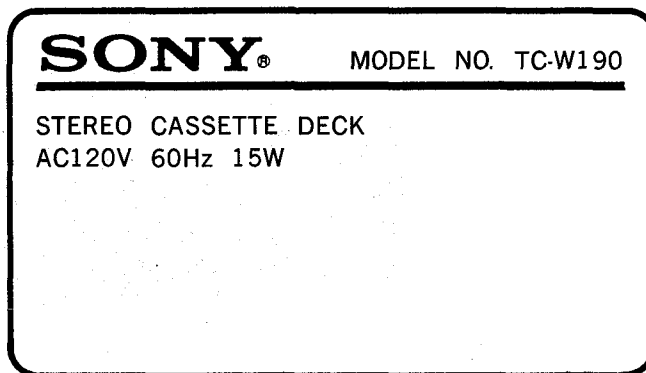


### SAFETY-RELATED COMPONENT WARNING!!

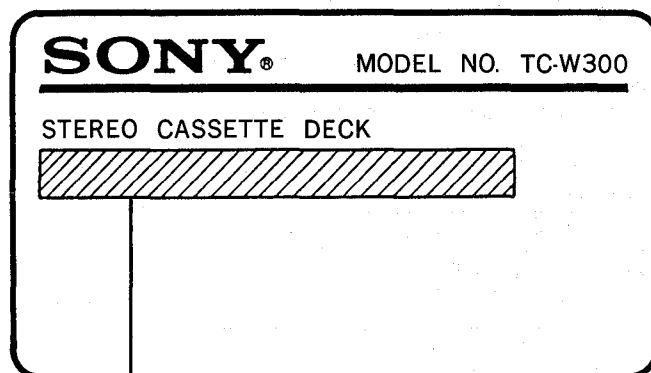
COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### —MODEL IDENTIFICATION— (Specification Label)

#### TC-W190:



#### TC-W300:



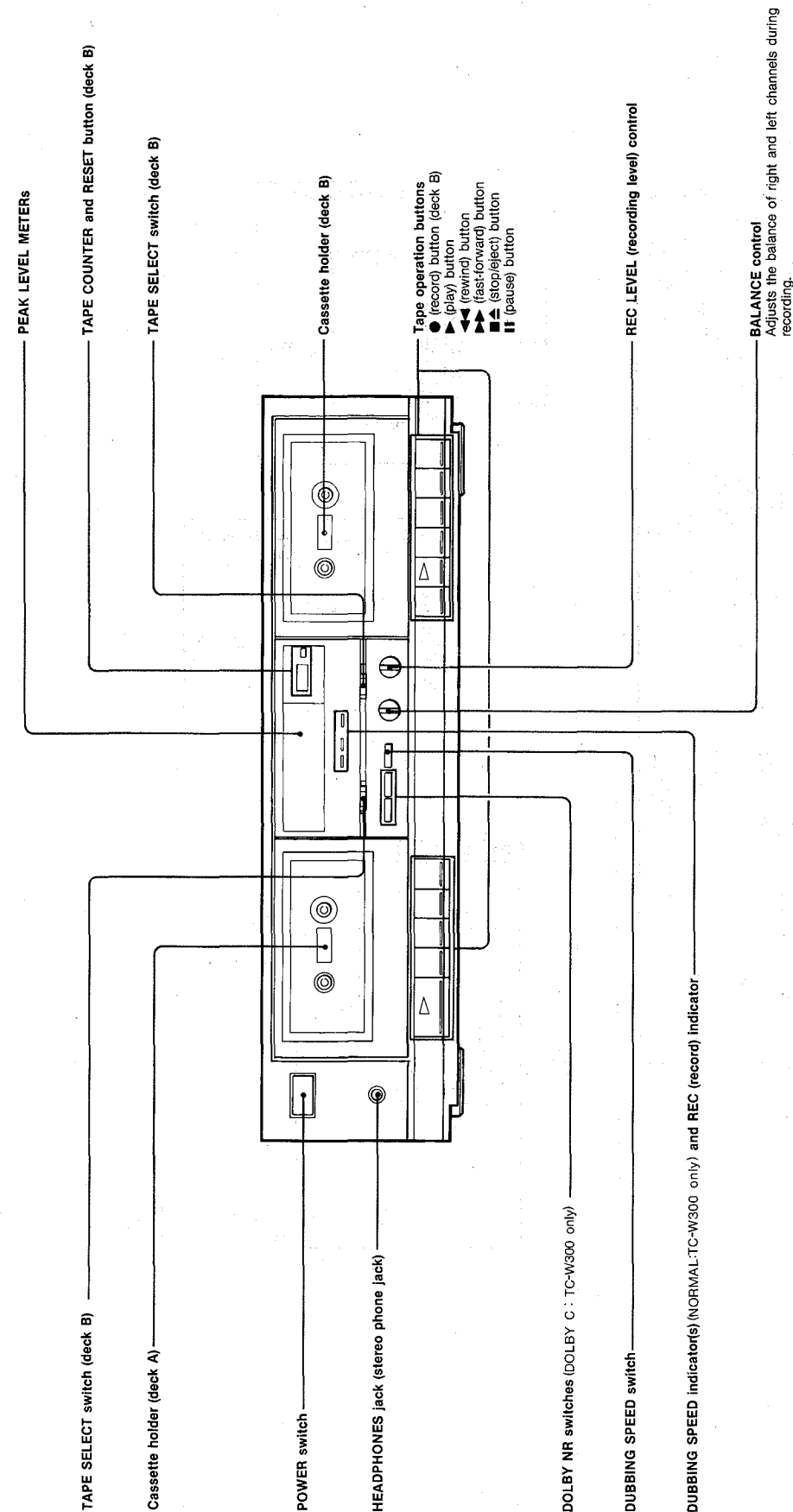
US, Canadian model: AC120V 60Hz 15W  
AEP model: AC220V~50/60Hz 15W  
UK model: AC240V~50/60Hz 15W

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 GENERAL

### 1-1. LOCATION AND FUNCTION OF CONTROLS



## SECTION 2 MECHANICAL ADJUSTMENTS

### PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab:
  - record/playback head
  - erase head
  - capstan
  - pinch roller
  - rubber belts
  - idlers

### Torque Measurement

Torque	Torquement	Meter reading
FWD	CQ-102C	30-70g·cm (0.42-0.97oz·inch)
FWD Back tension	CQ-102C	1.5-5.5g·cm (0.020-0.076oz·inch)
FF, REW	CQ-201B	63g·cm or more (0.87oz·inch or more)

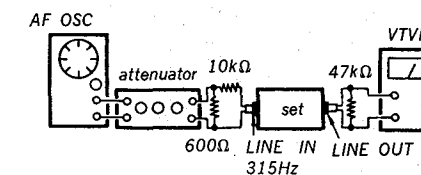
## SECTION 3 ELECTRICAL ADJUSTMENTS

- Demagnetize the record/playback and erase head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.
- The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
- The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF  
TAPE select switch: TYPE 1 (NORMAL) (DECK-B)

Mode: record



### Standard Input Level

	LINE IN
source impedance	10kΩ
input level	0.25V (-10dB)

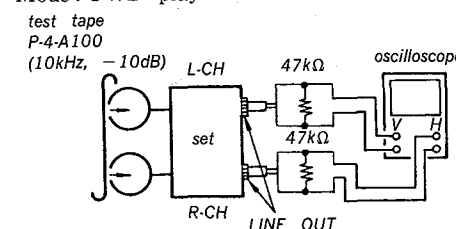
### Standard Output Level

	LINE OUT
load impedance	47kΩ
output level	0.44V (-5dB)

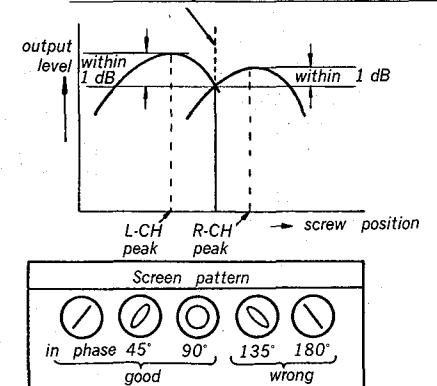
### 3-1. RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT DECK A/DECK B

#### Procedure:

- Mode: FWD playback

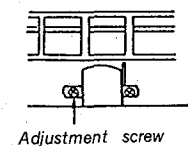


- Turn the adjustmentscrew and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



- After the adjustments, apply suitable locking compound to the parts adjusted.

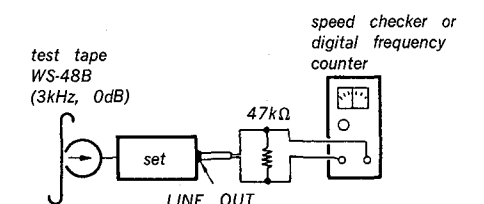
#### Adjustment Location:



### 3-2. TAPE SPEED ADJUSTMENT DECK A/DECK B

#### Procedure:

Mode: FWD playback



- Connect pin to with the lead wire. (CNP505)

Specification: high speed

Speed checker	Digital frequency counter
0±0.5%	5,980±30Hz

Frequency difference between the beginning and the end of the tape should be within 1.5% (90Hz).

**Adjustment location :**

DECK-A side RV501

DECK-B side RV503

2. Remove the wire in step 1. (CNP505)

**Specification :** normal speed

Speed checker	Digital frequency counter
$0 \pm 0.3\%$	$2,980 \pm 10\text{Hz}$

Frequency difference between the beginning and the end of the tape should be within 1.5% (45Hz).

**Adjustment location :**

DECK-A side RV502

DECK-B side RV504

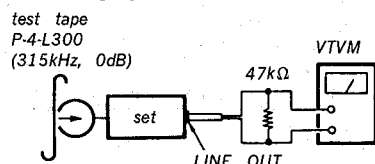
3. If the specifications are not satisfied, repeat step 1 and 2.

### 3-3. PLAYBACK LEVEL ADJUSTMENT

#### DECK A/DECK B

**Procedure:**

Mode : FWD playback



Adjust,

DECK-A side RV101 (L-CH), RV201 (R-CH)

DECK-B side RV102 (L-CH), RV202 (R-CH)

so that the specifications are satisfied.

**Specification :**

LINE OUT level: 0.44V (-5dB)

level difference between the channels: within 0.5dB

### 3-4. RECORD BIAS ADJUSTMENT

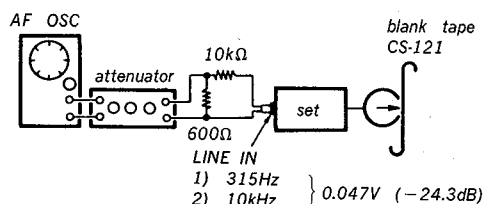
#### DECK B

**Setting :**

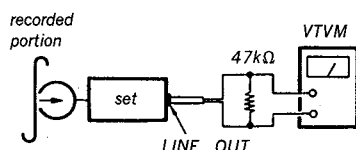
TAPE SELECT : TYPE-I (DECK-B)

**Procedure:**

1. Mode : record



2. Mode : playback



Playback the tape recorded in step 1. If the specification is not satisfied, adjust CT301 and repeat steps 1 and 2.

**Specification :**

The LINE OUT level of 10kHz signal relative to that of 315Hz: -0.5dB to 0.5dB.

### 3-5. RECORD GAIN ADJUSTMENT

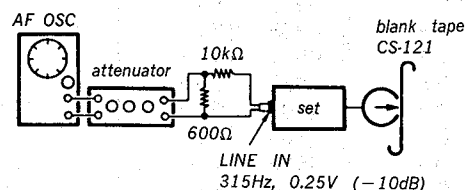
#### DECK B

**Setting :**

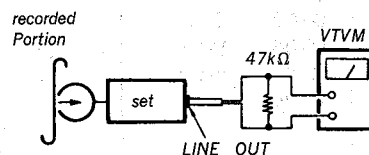
TAPE SELECT : TYPE-I (DECK-B)

**Procedure:**

1. Mode : record



2. Mode : playback



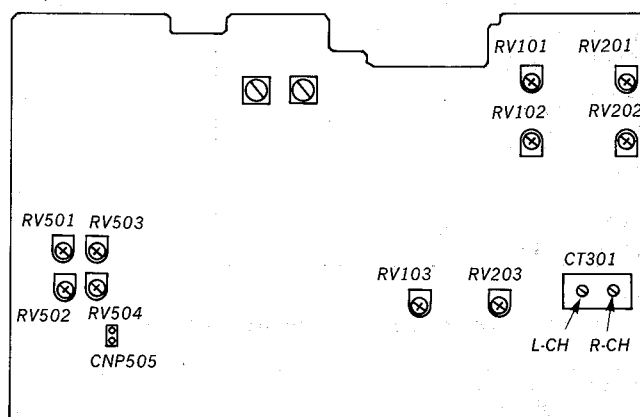
play back the recorded in step 1. If the specification is not satisfied, adjust RV103 (L-CH), RV203 (R-CH) and repeat steps 1 and 2.

**Specification:**

LINE OUT level: 0.44V (-5dB)

**Adjustment Location :** Audio Board

Component side.



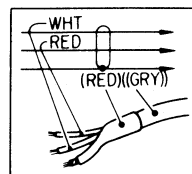
### 3-1. PRINTED WIRING BOARD

#### • Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	B-5	Q103	E-15
D102	B-4	Q201	C-9
D103	B-4	Q202	G-9
D104	B-4	Q203	E-15
D105	B-3	Q301	D-4
D106	B-3	Q302	E-4
D107	B-3	Q303	E-4
D201	B-5	Q304	H-8
D202	B-4	Q305	G-8
D203	B-4	Q306	G-8
D204	B-4	Q307	H-8
D205	B-3	Q308	F-8
D206	B-3	Q501	F-13
D207	B-3	Q502	Q-15
D301	D-4	Q503	G-16
D302	C-1	Q504	F-15
D303	D-4	Q505	F-16
D304	G-8	Q506	F-16
D305	E-8	Q507	E-15
D501	F-15	Q701	C-15
D502	F-11	Q702	C-15
D503	F-15	Q703	C-15
D504	F-15	Q704	B-15
D505	F-14	Q705	B-15
D506	G-12	Q706	B-15
D507	G-13		
D511	C-4		
D512	C-3:		
	(TC-W300)		
D513	C-3		
D701	C-16		
D702	C-16		
D703	B-16		
D704	B-16		
D705	C-14		
IC101	C-5		
IC201	C-3		
IC303	C-8		
IC304	E-10		
IC305	G-10		
IC306	D-16		
IC307	D-13:		
	(TC-W190)		
IC501	F-14		
IC502	F-14		
Q101	C-11		
Q102	G-10		

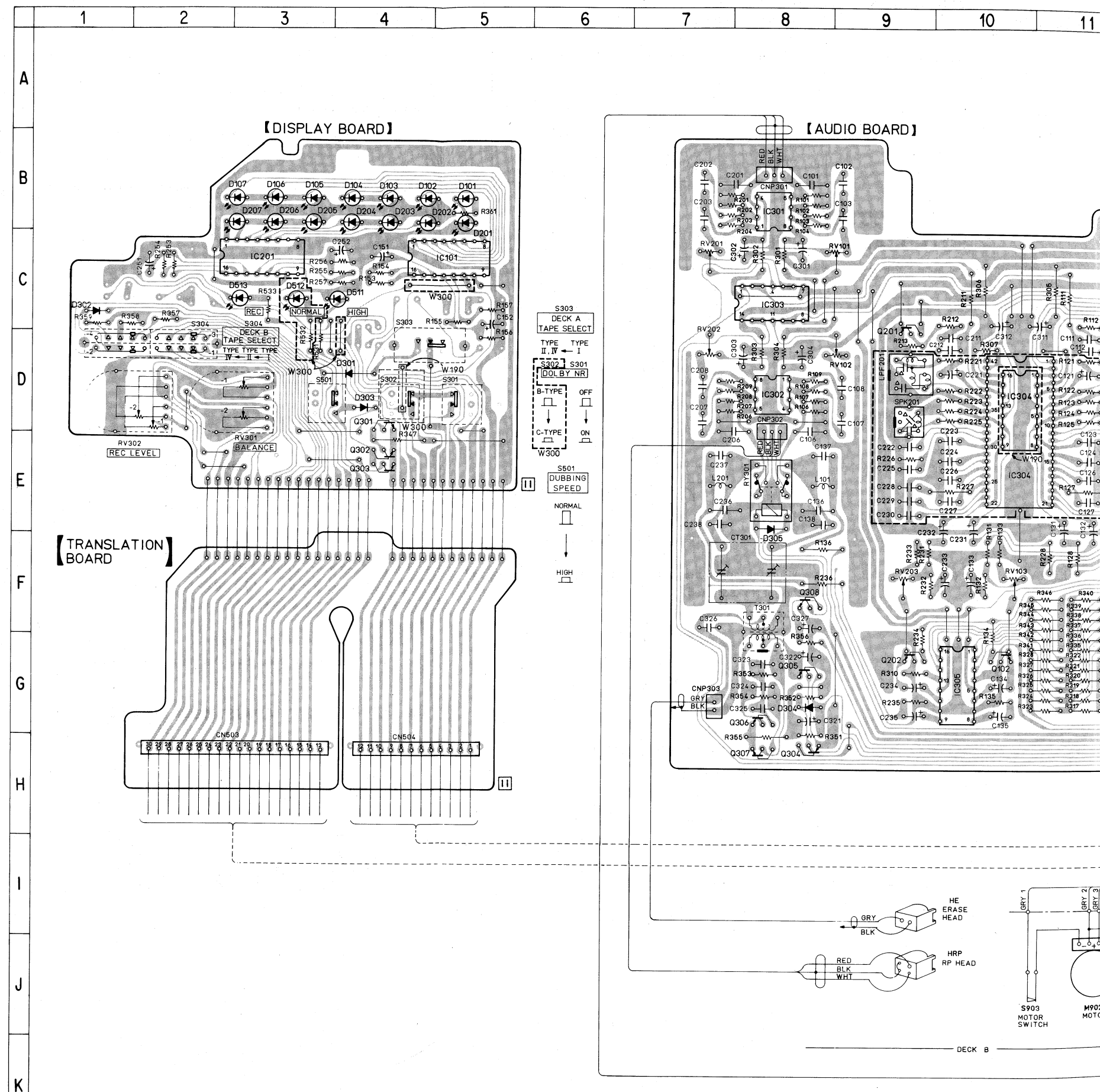
#### Note:

- Color code or sleeving over the end of the jacket.



- ○ : parts extracted from the component side.
- ● : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- □ : indicates side identified with part number.

## SECTION 4 DIAGRAMS



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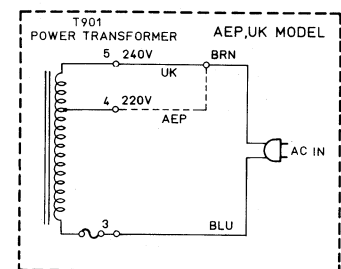
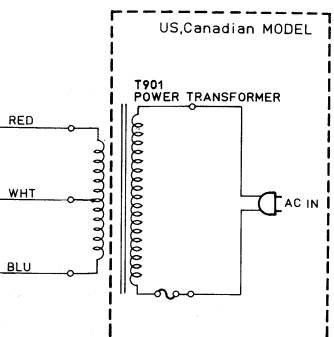
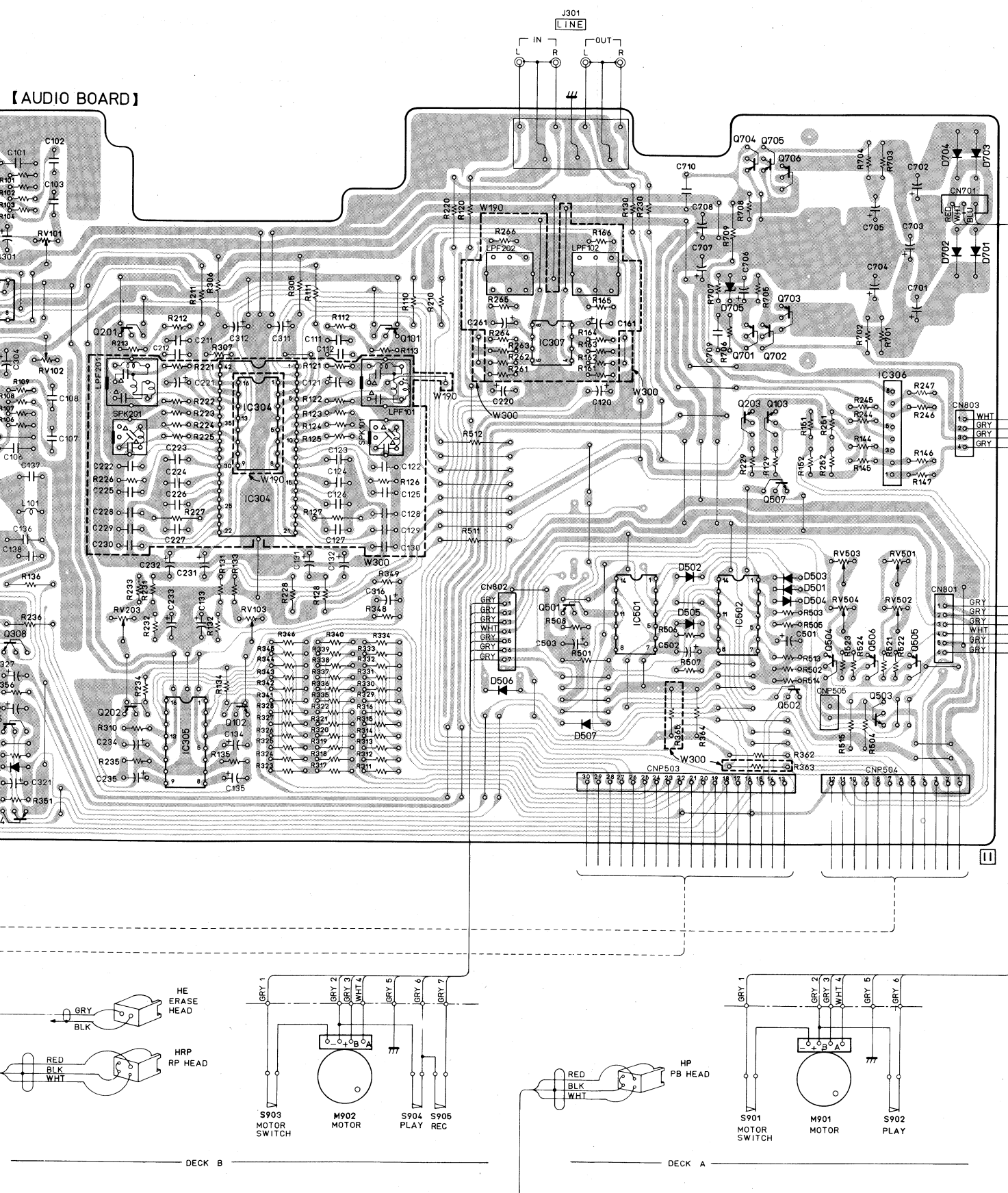
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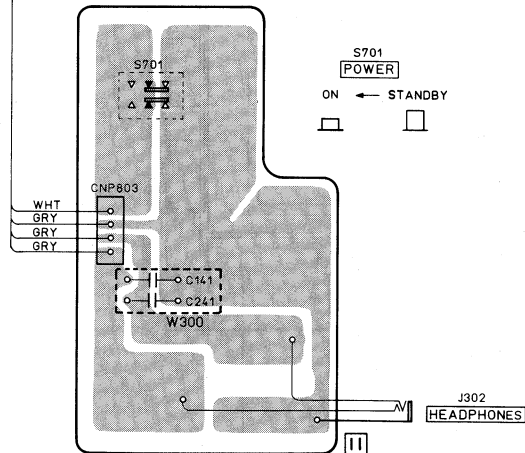
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## 【AUDIO BOARD】

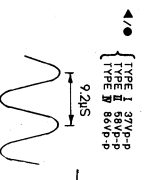


## 【SW BOARD】



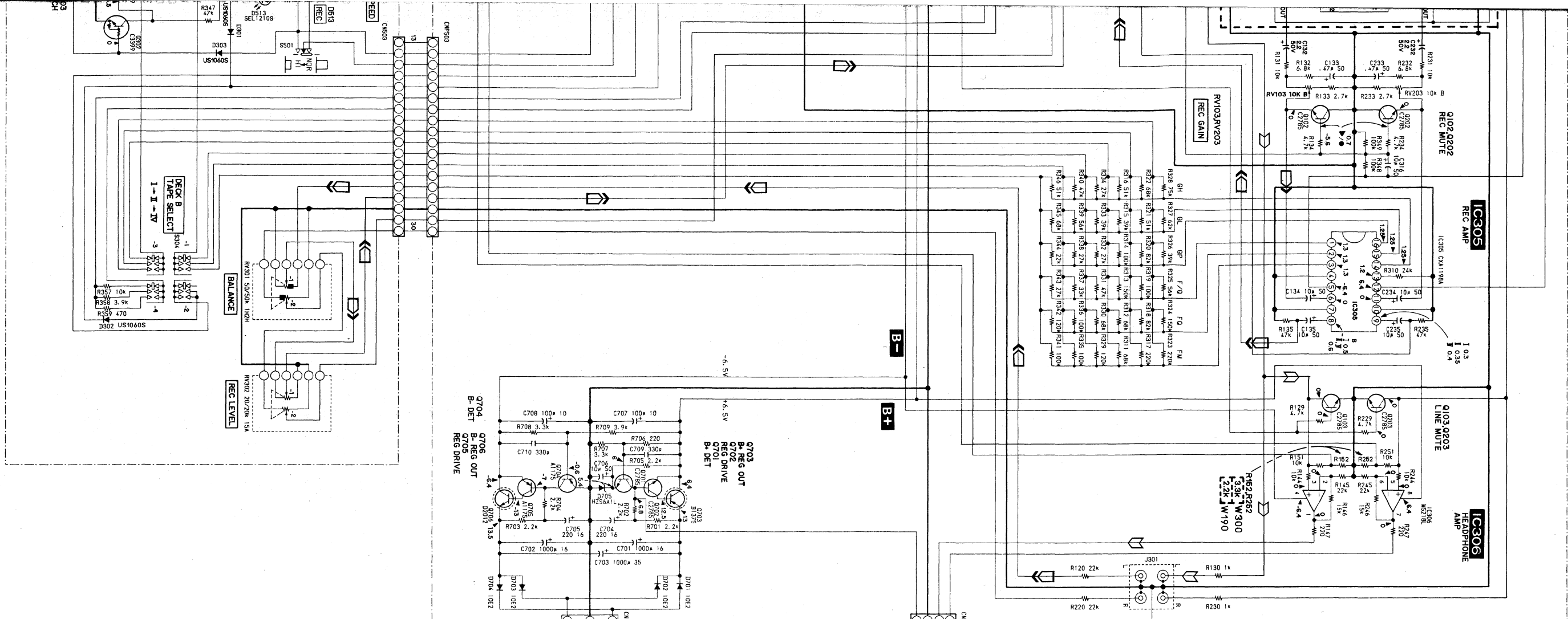
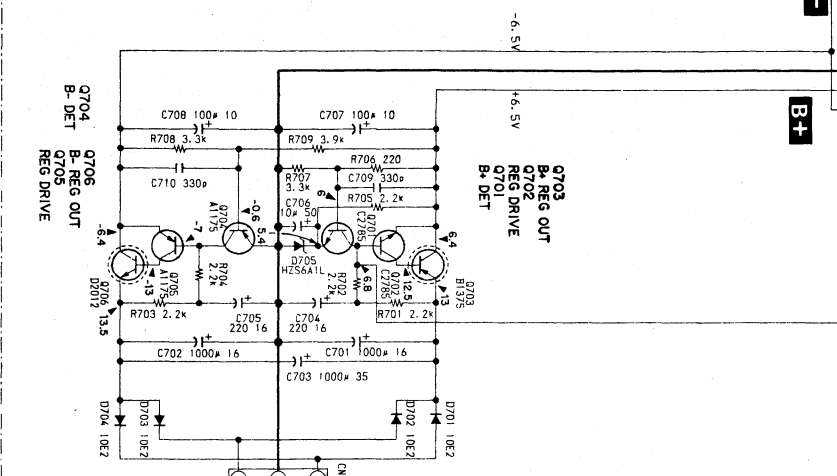
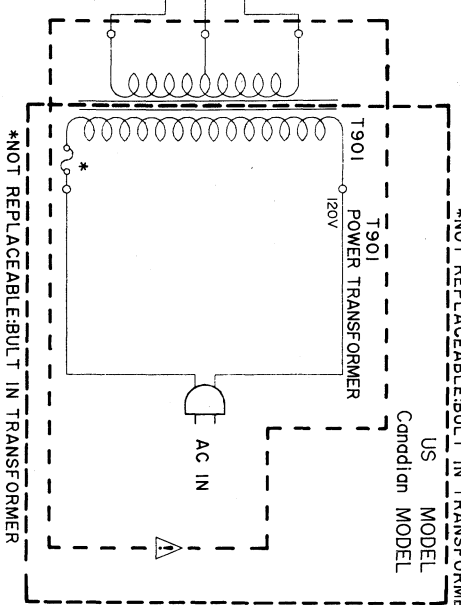
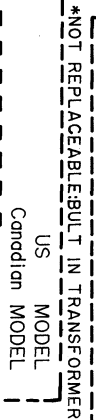
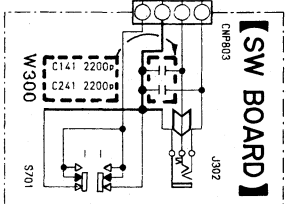
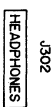


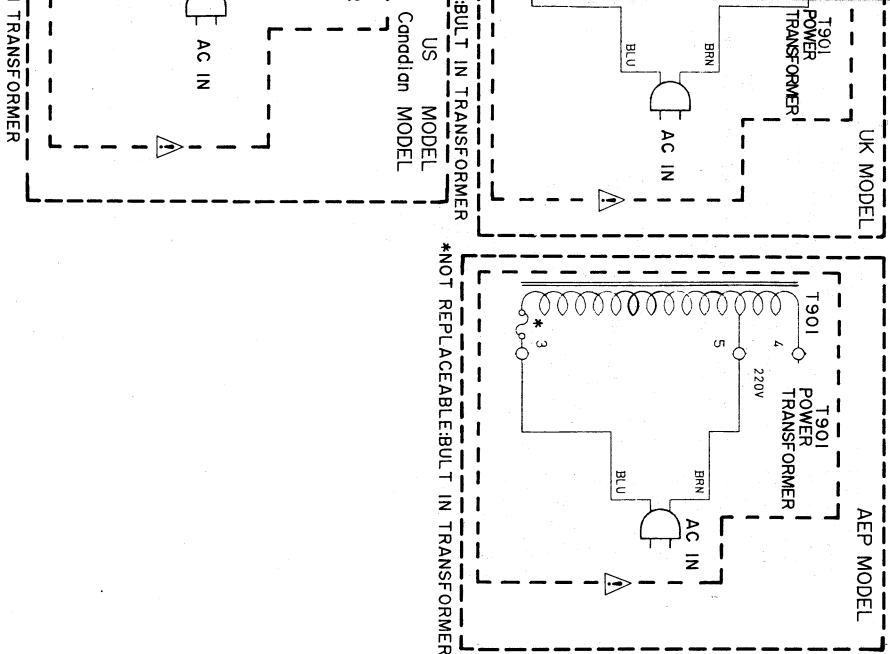
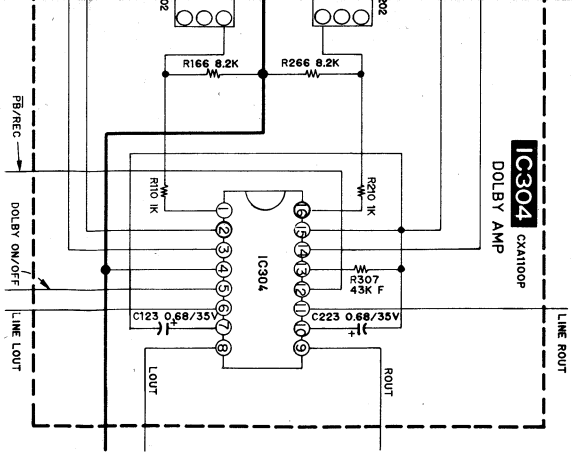
**B+**











4-3. SEMICONDUCTOR LEAD LAYOUTS

<b>CXA1198AP</b> IR2E02 	<b>M5218L</b> 	<b>SEL4414E</b> SEL4214S 
<b>μPC4570C-1</b> 	<b>25C3399</b> <b>25C3402</b> <b>25C634SP</b> <b>25A1345</b> 	<b>SEL1210S</b> 
<b>M4066BP</b> <b>M4001BP</b> <b>M4011BP</b> 	<b>25C2785</b> <b>25A1175</b> 	<b>US1060M</b> <b>10E2N</b> 
<b>CX20187</b> 	<b>25B1375</b> <b>25D2012</b> 	<b>HZS6A1L</b> 

Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\triangle$ : internal component.
- Switch

Ref. No.	Switch	Position
S301	DOLBY NR ON/OFF	OFF
S302	DOLBY NR TYPE B/C (TC-W300)	B-TYPE
S303	DECK A TAPE SELECT	TYPE-I
S304	DECK B TAPE SELECT	TYPE-I
S501	DUBBING SPEED	NDRMAL
S701	POWER	STANDBY
S901	DECK A MOTOR	OFF
S902	DECK A PLAY	OFF
S903	DECK B MOTOR	OFF
S904	DECK B PLAY	OFF
S905	DECK B REC	OFF

<b>Note:</b> The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.	<b>Note:</b> Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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

- **B+**: B+Line
- **B-**: B-Line
- $\square$ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.  
no mark: **PLAY**  
< >: **DUBING SPEED (NORMAL)**  
[ ]: **DUBING SPEED (HIGH)**
- $\blacktriangleright$ : **FWD**  $\blacktriangleleft$ : **REV**  $\bullet$ : **REC**  
• Voltages are taken with a VOM (50 k $\Omega$ /V).  
Voltage variations may be noted due to normal production tolerances.  
• Waveforms are taken with a oscilloscope.  
Voltage variations may be noted due to normal production tolerances.
- Signal path.  
 $\triangleright$ : **PB (DECK A)**  
 $\triangleright$ : **PB (DECK B)**  
 $\triangleright$ : **REC (DECK B)**


SECTION 5  
EXPLODED VIEWS

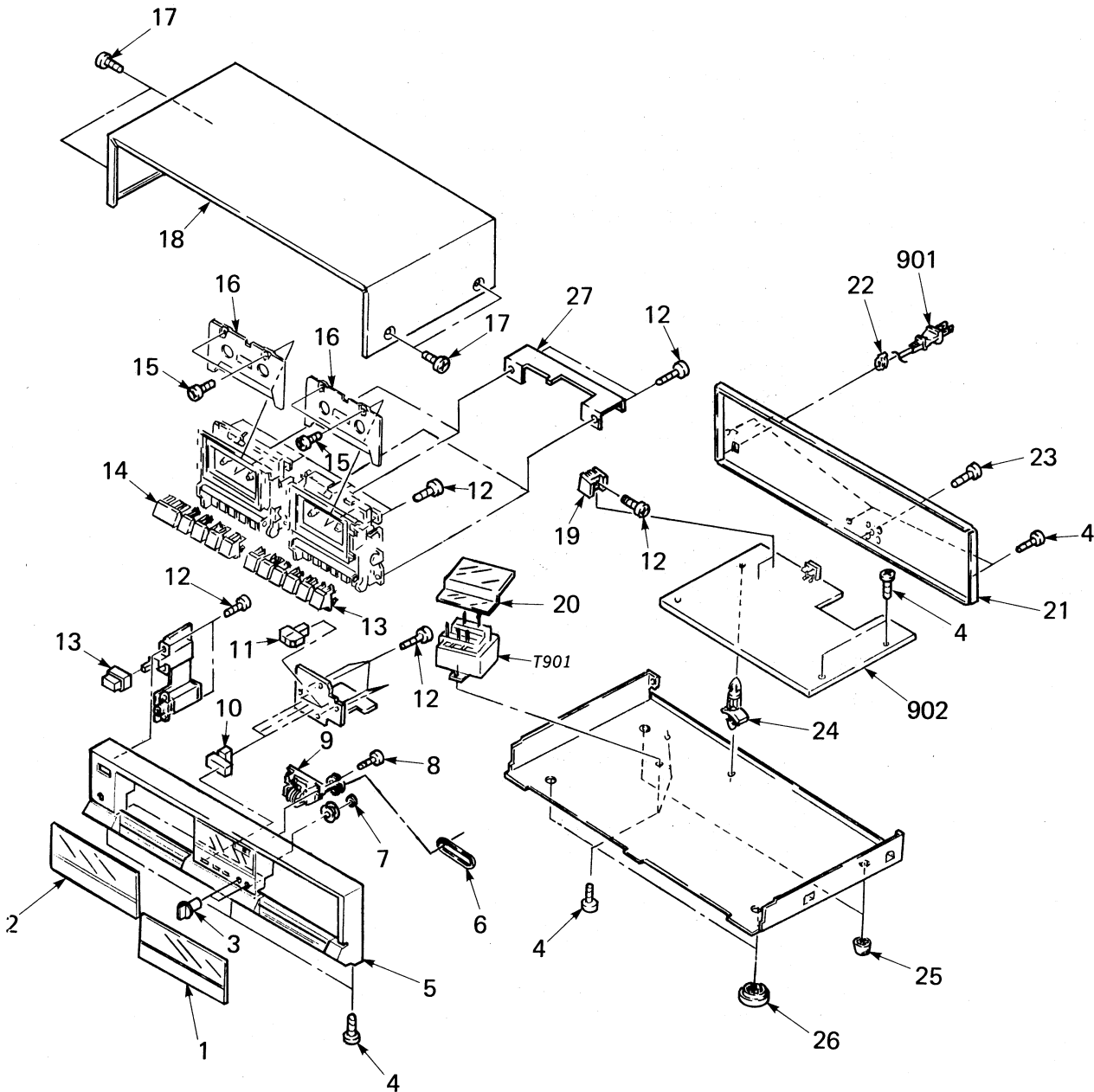
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts  
Example:  
(RED) ... KNOB, BALANCE (WHITE)  
↑ Cabinet's Color      ↑ Parts' Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



Ref.No	Part No.	Description	Remarks
1	X-3340-117-1	(TC-W300 ; AEP, UK, Canadian)....LID (B) ASSY, CASSETTE	
1	X-3340-118-1	(TC-W300 ; US)....LID (B) ASSY, CASSETTE	
1	X-3340-128-1	(TC-W190)....LID (B) ASSY, CASSETTE	
2	X-3340-115-1	(TC-W300 ; AEP, UK, Canadian)....LID (A) ASSY, CASSETTE	
2	X-3340-116-1	(TC-W300 ; US)....LID (A) ASSY, CASSETTE	
2	X-3340-127-1	(TC-W190)....LID (A) ASSY, CASSETTE	
3	3-346-380-01	KNOB (BALANCE, REC LEVEL) (BLK)	
3	3-346-380-21	(TC-W300)....KNOB (BALANCE, REC LEVEL) (RED)	
4	7-682-548-04	SCREW +BVTT 3X8 (S)	
5	X-3340-119-1	(TC-W300 ; AEP, UK)....PANEL ASSY, FRONT	
5	X-3340-120-1	(TC-W300 ; US, Canadian)....PANEL ASSY, FRONT	
5	X-3340-129-1	(TC-W190)....PANEL ASSY, FRONT	
6	3-305-524-00	BELT	
7	3-701-437-11	WASHER	
8	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
9	1-548-596-61	COUNTER, TAPE (MIDDLE TYPE)	
10	3-346-381-01	BUTTON	
11	3-346-379-01	KNOB (SLIDE)	
12	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
13	3-346-385-01	BUTTON (BLOCK B)	
13	4-917-460-01	KNOB, POWER	
14	3-346-384-01	BUTTON (BLOCK A)	
15	7-685-133-19	SCREW +P 2.6X6 TYPE2 NON-SLIT	
16	4-914-974-01	PLATE, ORNAMENTAL, CASSETTE	

Ref.No	Part No.	Description	Remarks
17	3-704-366-01	SCREW (CASE) (M3X8)	
18	*3-327-856-02	CASE	
19	*4-363-146-41	HEAT SINK, V.OUT	
20	*3-327-855-01	COVER (TRANSFORMER)	
21	*3-346-346-01	(TC-W300 ; US, Canadian)....PANEL, BACK	
21	*3-346-346-11	(TC-W300 ; UK)....PANEL, BACK	
21	*3-346-346-21	(TC-W300 ; AEP1)....PANEL, BACK	
21	*3-346-346-31	(TC-W300 ; AEP2)....PANEL, BACK	
21	*3-346-346-51	(TC-W190)....PANEL, BACK	
22	*3-703-244-00	(TC-W300)....BUSHING (2104), CORD	
22	*3-703-571-00	(TC-W190)....BUSHING (S) (4516), CORD	
23	7-621-849-00	SCREW, TAPPING	
24	*3-346-265-11	HOLDER, PC BOARD	
25	X-4864-303-0	FOOT ASSY	
26	X-3340-130-1	FOOT ASSY, ORNAMENTAL	
27	*3-346-376-01	REINFORCEMENT, MD	
901	Δ.1-551-506-XX	(TC-W300 ; US, Canadian/TC-W190)....CORD, POWER	
901	Δ.1-555-795-00	(TC-W300 ; AEP)....CORD, POWER, EULO PLUG	
901	Δ.1-556-035-00	(TC-W300 ; UK)....CORD, POWER	
902	*A-2056-426-A	(TC-W300)....MOUNTED PCB, AUDIO	
902	*A-2056-429-A	(TC-W190)....MOUNTED PCB, AUDIO	
T901	Δ.1-448-804-11	(TC-W300 ; US, Canadian/TC-W190)....TRANSFORMER, POWER	
T901	Δ.1-448-805-11	(TC-W300 ; AEP, UK)....TRANSFORMER, POWER	

NOTE:

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are such as a circuit part resistors in

Ref.No	Part No.
901	Δ.1-551-506-X
901	Δ.1-555-795-00
901	Δ.1-556-035-00
902	*A-2056-426-A
902	*A-2056-429-A
C101	1-162-288-31
C102	1-136-157-00
C103	1-124-767-00
C106	1-162-289-31
C107	1-136-157-00
C108	1-124-767-00
C111	1-130-479-00
C112	1-162-289-31
C120	1-123-875-11
C121	1-123-875-11
C122	1-130-479-00
C123	1-136-173-00
C123	1-131-587-11
C124	1-136-167-00
C125	1-136-155-00
C126	1-136-169-00
C127	1-136-163-00
C128	1-136-161-00
C129	1-130-481-00
C130	1-136-153-00
C131	1-123-875-11
C132	1-124-925-11
C133	1-124-902-00
C134	1-123-875-11
C135	1-123-875-11
C136	1-162-284-31
C137	1-136-273-91
C138	1-136-440-11
C141	1-161-375-00
C141	1-123-875-11
C151	1-124-499-11
C152	1-124-925-11
C201	1-162-288-31
C202	1-136-157-00
C203	1-124-767-00
C206	1-162-289-31
C207	1-136-157-00
C208	1-124-767-00
C211	1-130-479-00
C212	1-162-289-31
C220	1-123-875-11
C221	1-123-875-11
C222	1-130-479-00
C223	1-136-173-00

SECTION 6  
ELECTRICAL PARTS LIST

Part No.	Description	Remarks	Ref.No	Part No.	Description	Remarks
3340-117-1	(TC-W300 ; AEP, UK, Canadian)....LID (B) ASSY, CASSETTE		17	3-704-366-01	SCREW (CASE) (M3X8)	
3340-118-1	(TC-W300 ; US)....LID (B) ASSY, CASSETTE		18	*3-327-856-02	CASE	
3340-128-1	(TC-W190)....LID (B) ASSY, CASSETTE		19	*4-363-146-41	HEAT SINK, V.OUT	
3340-115-1	(TC-W300 ; AEP, UK, Canadian)....LID (A) ASSY, CASSETTE		20	*3-327-855-01	COVER (TRANSFORMER)	
3340-116-1	(TC-W300 ; US)....LID (A) ASSY, CASSETTE		21	*3-346-346-01	(TC-W300 ; US, Canadian)....PANEL, BACK	
3340-127-1	(TC-W190)....LID (A) ASSY, CASSETTE		21	*3-346-346-11	(TC-W300 ; UK)....PANEL, BACK	
446-380-01	KNOB (BALANCE, REC LEVEL) (BLK)		21	*3-346-346-21	(TC-W300 ; AEP1)....PANEL, BACK	
446-380-21	(TC-W300)....KNOB (BALANCE, REC LEVEL) (RED)		21	*3-346-346-31	(TC-W300 ; AEP2)....PANEL, BACK	
82-548-04	SCREW +BVTT 3X8 (S)		21	*3-346-346-51	(TC-W190)....PANEL, BACK	
3340-119-1	(TC-W300 ; AEP, UK)....PANEL ASSY, FRONT		22	*3-703-244-00	(TC-W300)....BUSHING (2104), CORD	
3340-120-1	(TC-W300 ; US, Canadian)....PANEL ASSY, FRONT		22	*3-703-571-00	(TC-W190)....BUSHING (S) (4516), CORD	
3340-129-1	(TC-W190)....PANEL ASSY, FRONT		23	7-621-849-00	SCREW, TAPPING	
05-524-00	BELT		24	*3-346-265-11	HOLDER, PC BOARD	
01-437-11	WASHER		25	X-4864-303-0	FOOT ASSY	
85-534-19	SCREW +BTP 2.6X8 TYPE2 N-S		26	X-3340-130-1	FOOT ASSY, ORNAMENTAL	
48-596-61	COUNTER, TAPE (MIDDLE TYPE)		27	*3-346-376-01	REINFORCEMENT, MD	
46-381-01	BUTTON		901	Δ.1-551-506-XX	(TC-W300 ; US, Canadian/TC-W190)....CORD, POWER	
46-379-01	KNOB (SLIDE)		901	Δ.1-555-795-00	(TC-W300 ; AEP)....CORD, POWER, EULO PLUG	
85-646-79	SCREW +BVTP 3X8 TYPE2 N-S		901	Δ.1-556-035-00	(TC-W300 ; UK)....CORD, POWER	
46-385-01	BUTTON (BLOCK B)		902	*A-2056-426-A	(TC-W300)....MOUNTED PCB, AUDIO	
17-460-01	KNOB, POWER		902	*A-2056-429-A	(TC-W190)....MOUNTED PCB, AUDIO	
46-384-01	BUTTON (BLOCK A)		T901	Δ.1-448-804-11	(TC-W300 ; US, Canadian/TC-W190)....TRANSFORMER, POWER	
85-133-19	SCREW +P 2.6X6 TYPE2 NON-SLIT		T901	Δ.1-448-805-11	(TC-W300 ; AEP, UK)....TRANSFORMER, POWER	
14-974-01	PLATE, ORNAMENTAL, CASSETTE					

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:  $\mu$ F, PF:  $\mu$ MF.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH:  $\mu$ H

SEMICONDUCTORS

In each case, U:  $\mu$ , for example:  
UA....:  $\mu$ A...., UPA....:  $\mu$ PA....,  
UPC....:  $\mu$ PC, UPD....:  $\mu$ PD....

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No	Part No.	Description
901	Δ.1-551-506-XX	(TC-W300 ; US, Canadian/TC-W190)....CORD, POWER
901	Δ.1-555-795-00	(TC-W300 ; AEP)....CORD, POWER, EULO PLUG
901	Δ.1-556-035-00	(TC-W300 ; UK)....CORD, POWER
902	*A-2056-426-A	(TC-W300)....MOUNTED PCB, AUDIO
902	*A-2056-429-A	(TC-W190)....MOUNTED PCB, AUDIO
902	*A-2056-429-A	(TC-W190)....MOUNTED PCB, AUDIO
CAPACITOR		
C101	1-162-288-31	CERAMIC 330PF 10% 50V
C102	1-136-157-00	FILM 0.022MF 5% 50V
C103	1-124-767-00	ELECT 2.2MF 20% 50V
C106	1-162-289-31	CERAMIC 390PF 10% 50V
C107	1-136-157-00	FILM 0.022MF 5% 50V
C108	1-124-767-00	ELECT 2.2MF 20% 50V
C111	1-130-479-00	MYLAR 0.0047MF 5% 50V
C112	1-162-289-31	CERAMIC 390PF 10% 50V
C120	1-123-875-11	ELECT 10MF 20% 50V
C121	1-123-875-11	(TC-W300)....ELECT 10MF 20% 50V
C122	1-130-479-00	(TC-W300)....MYLAR 0.0047MF 5% 50V
C123	1-136-173-00	(TC-W300)....FILM 0.47MF 5% 50V
C123	1-131-587-11	(TC-W190)....TANTALUM 0.68MF 10% 35V
C124	1-136-167-00	(TC-W300)....FILM 0.15MF 5% 50V
C125	1-136-155-00	(TC-W300)....FILM 0.015MF 5% 50V
C126	1-136-169-00	(TC-W300)....FILM 0.22MF 5% 50V
C127	1-136-163-00	(TC-W300)....FILM 0.068MF 5% 50V
C128	1-136-161-00	(TC-W300)....FILM 0.047MF 5% 50V
C129	1-130-481-00	(TC-W300)....MYLAR 0.0068MF 5% 50V
C130	1-136-153-00	(TC-W300)....FILM 0.01MF 5% 50V
C131	1-123-875-11	ELECT 10MF 20% 50V
C132	1-124-925-11	ELECT 2.2MF 20% 50V
C133	1-124-902-00	ELECT 0.47MF 20% 50V
C134	1-123-875-11	ELECT 10MF 20% 50V
C135	1-123-875-11	ELECT 10MF 20% 50V
C136	1-162-284-31	CERAMIC 150PF 10% 50V
C137	1-136-273-91	FILM 75PF 5% 630V
C138	1-136-440-11	FILM 39PF 5% 630V
C141	1-161-375-00	(TC-W300)....CERAMIC 0.0022MF 20% 16V
C141	1-123-875-11	(TC-W190)....ELECT 10MF 20% 50V
C151	1-124-499-11	ELECT 1MF 20% 50V
C152	1-124-925-11	ELECT 2.2MF 20% 50V
C201	1-162-288-31	CERAMIC 330PF 10% 50V
C202	1-136-157-00	FILM 0.022MF 5% 50V
C203	1-124-767-00	ELECT 2.2MF 20% 50V
C206	1-162-289-31	CERAMIC 390PF 10% 50V
C207	1-136-157-00	FILM 0.022MF 5% 50V
C208	1-124-767-00	ELECT 2.2MF 20% 50V
C211	1-130-479-00	MYLAR 0.0047MF 5% 50V
C212	1-162-289-31	CERAMIC 390PF 10% 50V
C220	1-123-875-11	ELECT 10MF 20% 50V
C221	1-123-875-11	(TC-W300)....ELECT 10MF 20% 50V
C222	1-130-479-00	(TC-W300)....MYLAR 0.0047MF 5% 50V
C223	1-136-173-00	(TC-W300)....FILM 0.47MF 5% 50V

Ref.No	Part No.	Description
C223	1-131-587-11	(TC-W190)....TANTALUM 0.68MF 10% 35V
C224	1-136-167-00	(TC-W300)....FILM 0.15MF 5% 50V
C225	1-136-155-00	(TC-W300)....FILM 0.015MF 5% 50V
C226	1-136-169-00	(TC-W300)....FILM 0.22MF 5% 50V
C227	1-136-163-00	(TC-W300)....FILM 0.068MF 5% 50V
C228	1-136-161-00	(TC-W300)....FILM 0.047MF 5% 50V
C229	1-130-481-00	(TC-W300)....MYLAR 0.0068MF 5% 50V
C230	1-136-153-00	(TC-W300)....FILM 0.01MF 5% 50V
C231	1-123-875-11	ELECT 10MF 20% 50V
C232	1-124-925-11	ELECT 2.2MF 20% 50V
C233	1-124-902-00	ELECT 0.47MF 20% 50V
C234	1-123-875-11	ELECT 10MF 20% 50V
C235	1-123-875-11	ELECT 10MF 20% 50V
C236	1-162-284-31	CERAMIC 150PF 10% 50V
C237	1-136-273-91	FILM 75PF 5% 630V
C238	1-136-440-11	FILM 39PF 5% 630V
C241	1-161-375-00	(TC-W300)....CERAMIC 0.0022MF 20% 16V
C251	1-124-499-11	ELECT 1MF 20% 50V
C252	1-124-925-11	ELECT 2.2MF 20% 50V
C252	1-123-875-11	(TC-W190)....ELECT 10MF 20% 50V
C301	1-124-443-00	ELECT 100MF 20% 10V
C302	1-124-443-00	ELECT 100MF 20% 10V
C303	1-124-443-00	ELECT 100MF 20% 10V
C304	1-124-443-00	ELECT 100MF 20% 10V
C311	1-126-176-11	ELECT 220MF 20% 10V
C312	1-126-176-11	ELECT 220MF 20% 10V
C316	1-123-875-11	ELECT 10MF 20% 50V
C321	1-124-902-00	ELECT 0.47MF 20% 50V
C322	1-124-925-11	ELECT 2.2MF 20% 50V
C323	1-130-478-00	MYLAR 0.0039MF 5% 50V
C324	1-130-478-00	MYLAR 0.0039MF 5% 50V
C325	1-130-482-00	MYLAR 0.0082MF 5% 50V
C326	1-136-562-11	FILM 0.0082MF 5% 630V
C327	1-124-925-11	ELECT 2.2MF 20% 50V
C501	1-123-875-11	ELECT 10MF 20% 50V
C502	1-123-875-11	ELECT 10MF 20% 50V
C503	1-124-499-11	ELECT 1MF 20% 50V
C701	1-124-360-00	ELECT 1000MF 20% 16V
C702	1-124-360-00	ELECT 1000MF 20% 16V
C703	1-126-105-11	ELECT 1000MF 20% 35V
C704	1-124-120-11	ELECT 220MF 20% 16V
C705	1-124-120-11	ELECT 220MF 20% 16V
C706	1-123-875-11	ELECT 10MF 20% 50V
C707	1-124-443-00	ELECT 100MF 20% 10V
C708	1-124-443-00	ELECT 100MF 20% 10V
C709	1-162-288-31	CERAMIC 330PF 10% 50V
C710	1-162-288-31	CERAMIC 330PF 10% 50V
CN503	*1-566-659-11	CONNECTOR, HINGE (SOCKET) 18P
CN504	*1-566-827-11	SOCKET, CONNECTOR 12P
CNP301	*1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P

Ref.No	Part No.	Description
CNP302	*1-564-705-11	PIN, CONNECTOR
CNP303	*1-564-704-11	PIN, CONNECTOR
CNP503	*1-566-660-11	CONNECTOR, H
CNP504	*1-566-826-11	PLUG, CONNEC
CNP505	*1-564-505-11	PLUG, CONNEC
CNP803	*1-564-497-11	PIN, CONNECTOR
CT301	1-141-225-00	CAP, TUNING, T
D101	8-719-304-37	DIODE SEL4414F
D102	8-719-304-37	DIODE SEL4414F
D103	8-719-304-37	DIODE SEL4414F
D104	8-719-304-37	DIODE SEL4414F
D105	8-719-304-32	DIODE SEL4214S
D106	8-719-304-32	DIODE SEL4214S
D107	8-719-304-32	DIODE SEL4214S
D201	8-719-304-37	DIODE SEL4414F
D202	8-719-304-37	DIODE SEL4414F
D203	8-719-304-37	DIODE SEL4414F
D204	8-719-304-37	DIODE SEL4414F
D205	8-719-304-32	DIODE SEL4214S
D206	8-719-304-32	DIODE SEL4214S
D207	8-719-304-32	DIODE SEL4214S
D301	8-719-000-26	DIODE US1060M
D302	8-719-000-26	DIODE US1060M
D303	8-719-000-26	DIODE US1060M
D304	8-719-000-26	DIODE US1060M
D305	8-719-000-26	DIODE US1060M
D501	8-719-000-26	DIODE US1060M
D502	8-719-000-26	DIODE US1060M
D503	8-719-000-26	DIODE US1060M
D504	8-719-000-26	DIODE US1060M
D505	8-719-000-26	DIODE US1060M
D506	8-719-000-26	DIODE US1060M
D507	8-719-000-26	DIODE US1060M
D511	8-719-302-45	DIODE SEL1210S
D512	8-719-302-45	(TC-W300)....D
D513	8-719-302-45	DIODE SEL1210S
D701	8-719-200-77	DIODE 10E2N
D702	8-719-200-77	DIODE 10E2N
D703	8-719-200-77	DIODE 10E2N
D704	8-719-200-77	DIODE 10E2N
D705	8-719-933-33	DIODE HZS6A1L
IC101	8-759-912-79	IC IR2E02
IC201	8-759-912-79	IC IR2E02
IC301	8-759-111-44	IC UPC4570C-1
IC302	8-759-111-44	IC UPC4570C-1
IC303	8-759-601-43	IC M4066BP
IC304	8-752-018-70	(TC-W300)....IC
IC304	8-752-031-67	(TC-W190)....IC
IC305	8-752-033-61	IC CXA1198AP
IC306	8-759-600-02	IC M5218L
IC307	8-759-601-02	(TC-W190)....IC
IC501	8-759-601-06	IC M4001BP
IC502	8-759-601-10	IC M4011BP
J301	1-565-258-11	JACK, PIN 4P (L
J302	1-507-982-11	JACK (LARGE TY
L101	1-410-780-11	INDUCTOR
L201	1-410-780-11	INDUCTOR
LPF101	1-236-087-11	FILTER, LOW PA
LPF201	1-236-087-11	FILTER, LOW PA
Q101	8-729-806-38	TRANSISTOR 2S
Q102	8-729-178-54	TRANSISTOR 2S
Q103	8-729-178-54	TRANSISTOR 2S

SECTION 6  
ELECTRICAL PARTS LIST

the parts  
specified in  
the set.  
nce they  
. Some  
ing these

CAPACITORS:  
MF:  $\mu$ F, PF:  $\mu$ F.

RESISTORS  
• All resistors are in ohms.  
• F: nonflammable

COILS  
• MMH: mH, UH:  $\mu$ H

SEMICONDUCTORS  
In each case, U:  $\mu$ , for example:  
UA....:  $\mu$ A..., UPA....:  $\mu$ PA...,  
UPC....:  $\mu$ PC, UPD....:  $\mu$ PD...

The components identified by  
mark  $\Delta$  or dotted line with mark  
 $\Delta$  are critical for safety.  
Replace only with part number  
specified.

Les composants identifiés par une  
marque  $\Delta$  sont critiques pour la  
sécurité.  
Ne les remplacer que par une  
pièce portant le numéro spécifié.

190)  
WER, EULO PLUG  
ER  
AUDIO  
AUDIO

10% 50V  
5% 50V  
20% 50V  
10% 50V  
5% 50V

20% 50V  
5% 50V  
10% 50V  
20% 50V  
20% 50V

5% 50V  
5% 50V

10% 35V  
5% 50V  
5% 50V  
5% 50V  
5% 50V  
5% 50V

5% 50V  
5% 50V  
20% 50V  
20% 50V  
20% 50V

20% 50V  
20% 50V  
10% 50V  
5% 630V  
5% 630V

20% 16V  
20% 50V  
20% 50V  
20% 50V  
10% 50V

5% 50V  
20% 50V  
10% 50V  
5% 50V  
20% 50V

5% 50V  
10% 50V  
20% 50V  
20% 50V  
5% 50V

5% 50V

Ref.No	Part No.	Description
C223	1-131-587-11	(TC-W190) ....TANTALUM 0.68MF 10% 35V
C224	1-136-167-00	(TC-W300)....FILM 0.15MF 5% 50V
C225	1-136-155-00	(TC-W300)....FILM 0.015MF 5% 50V
C226	1-136-169-00	(TC-W300)....FILM 0.22MF 5% 50V
C227	1-136-163-00	(TC-W300)....FILM 0.068MF 5% 50V
C228	1-136-161-00	(TC-W300)....FILM 0.047MF 5% 50V
C229	1-130-481-00	(TC-W300)....MYLAR 0.0068MF 5% 50V
C230	1-136-153-00	(TC-W300)....FILM 0.01MF 5% 50V
C231	1-123-875-11	ELECT 10MF 20% 50V
C232	1-124-925-11	ELECT 2.2MF 20% 50V
C233	1-124-902-00	ELECT 0.47MF 20% 50V
C234	1-123-875-11	ELECT 10MF 20% 50V
C235	1-123-875-11	ELECT 10MF 20% 50V
C236	1-162-284-31	CERAMIC 150PF 10% 50V
C237	1-136-273-91	FILM 75PF 5% 630V
C238	1-136-440-11	FILM 39PF 5% 630V
C241	1-161-375-00	(TC-W300)....CERAMIC 0.0022MF 20% 16V
C251	1-124-499-11	ELECT 1MF 20% 50V
C252	1-124-925-11	ELECT 2.2MF 20% 50V
C252	1-123-875-11	(TC-W190)....ELECT 10MF 20% 50V
C301	1-124-443-00	ELECT 100MF 20% 10V
C302	1-124-443-00	ELECT 100MF 20% 10V
C303	1-124-443-00	ELECT 100MF 20% 10V
C304	1-124-443-00	ELECT 100MF 20% 10V
C311	1-126-176-11	ELECT 220MF 20% 10V
C312	1-126-176-11	ELECT 220MF 20% 10V
C316	1-123-875-11	ELECT 10MF 20% 50V
C321	1-124-902-00	ELECT 0.47MF 20% 50V
C322	1-124-925-11	ELECT 2.2MF 20% 50V
C323	1-130-478-00	MYLAR 0.0039MF 5% 50V
C324	1-130-478-00	MYLAR 0.0039MF 5% 50V
C325	1-130-482-00	MYLAR 0.0082MF 5% 50V
C326	1-136-562-11	FILM 0.0082MF 5% 630V
C327	1-124-925-11	ELECT 2.2MF 20% 50V
C501	1-123-875-11	ELECT 10MF 20% 50V
C502	1-123-875-11	ELECT 10MF 20% 50V
C503	1-124-499-11	ELECT 1MF 20% 50V
C701	1-124-360-00	ELECT 1000MF 20% 16V
C702	1-124-360-00	ELECT 1000MF 20% 16V
C703	1-126-105-11	ELECT 1000MF 20% 35V
C704	1-124-120-11	ELECT 220MF 20% 16V
C705	1-124-120-11	ELECT 220MF 20% 16V
C706	1-123-875-11	ELECT 10MF 20% 50V
C707	1-124-443-00	ELECT 100MF 20% 10V
C708	1-124-443-00	ELECT 100MF 20% 10V
C709	1-162-288-31	CERAMIC 330PF 10% 50V
C710	1-162-288-31	CERAMIC 330PF 10% 50V
CN503	*1-566-659-11	CONNECTOR, HINGE (SOCKET) 18P
CN504	*1-566-827-11	SOCKET, CONNECTOR 12P
CNP301	*1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P

Ref.No	Part No.	Description
CNP302	*1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P
CNP303	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P
CNP503	*1-566-660-11	CONNECTOR, HINGE (PLUG) 18P
CNP504	*1-566-826-11	PLUG, CONNECTOR 12P
CNP505	*1-564-505-11	PLUG, CONNECTOR 2P
CNP803	*1-564-497-11	PIN, CONNECTOR 4P
CT301	1-141-225-00	CAP, TUNING, TRIMAR
D101	8-719-304-37	DIODE SEL4414E
D102	8-719-304-37	DIODE SEL4414E
D103	8-719-304-37	DIODE SEL4414E
D104	8-719-304-37	DIODE SEL4414E
D105	8-719-304-32	DIODE SEL4214S
D106	8-719-304-32	DIODE SEL4214S
D107	8-719-304-32	DIODE SEL4214S
D201	8-719-304-37	DIODE SEL4414E
D202	8-719-304-37	DIODE SEL4414E
D203	8-719-304-37	DIODE SEL4414E
D204	8-719-304-37	DIODE SEL4414E
D205	8-719-304-32	DIODE SEL4214S
D206	8-719-304-32	DIODE SEL4214S
D207	8-719-304-32	DIODE SEL4214S
D301	8-719-000-26	DIODE US1060M
D302	8-719-000-26	DIODE US1060M
D303	8-719-000-26	DIODE US1060M
D304	8-719-000-26	DIODE US1060M
D305	8-719-000-26	DIODE US1060M
D501	8-719-000-26	DIODE US1060M
D502	8-719-000-26	DIODE US1060M
D503	8-719-000-26	DIODE US1060M
D504	8-719-000-26	DIODE US1060M
D505	8-719-000-26	DIODE US1060M
D506	8-719-000-26	DIODE US1060M
D507	8-719-000-26	DIODE US1060M
D511	8-719-302-45	DIODE SEL1210S
D512	8-719-302-45	(TC-W300)....DIODE SEL1210S
D513	8-719-302-45	DIODE SEL1210S
D701	8-719-200-77	DIODE 10E2N
D702	8-719-200-77	DIODE 10E2N
D703	8-719-200-77	DIODE 10E2N
D704	8-719-200-77	DIODE 10E2N
D705	8-719-933-33	DIODE HZS6A1L
IC101	8-759-912-79	IC IR2E02
IC201	8-759-912-79	IC IR2E02
IC301	8-759-111-44	IC UPC4570C-1
IC302	8-759-111-44	IC UPC4570C-1
IC303	8-759-601-43	IC M4066BP
IC304	8-752-018-70	(TC-W300)....IC CX20187
IC304	8-752-031-67	(TC-W190)....IC CXA1100P
IC305	8-752-033-61	IC CXA1198AP
IC306	8-759-600-02	IC M5218L
IC307	8-759-601-02	(TC-W190)....IC M5218P
IC501	8-759-601-06	IC M4001BP
IC502	8-759-601-10	IC M4011BP
J301	1-565-258-11	JACK, PIN 4P (LINE IN/OUT)
J302	1-507-982-11	JACK (LARGE TYPE) (HEADPHONE)
L101	1-410-780-11	INDUCTOR 27MMH
L201	1-410-780-11	INDUCTOR 27MMH
LPF101	1-236-087-11	FILTER, LOW PASS
LPF201	1-236-087-11	FILTER, LOW PASS
Q101	8-729-806-38	TRANSISTOR 2SC3399
Q102	8-729-178-54	TRANSISTOR 2SC2785
Q103	8-729-178-54	TRANSISTOR 2SC2785

Ref.No	Part No.	Description
Q201	8-729-806-38	TRANSISTOR 2SC3399
Q202	8-729-178-54	TRANSISTOR 2SC2785
Q203	8-729-178-54	TRANSISTOR 2SC2785
Q301	8-729-806-38	TRANSISTOR 2SC3399
Q302	8-729-806-38	TRANSISTOR 2SC3399
Q303	8-729-806-38	TRANSISTOR 2SC3399
Q304	8-729-806-20	TRANSISTOR 2SA1345
Q305	8-729-600-27	TRANSISTOR 2SC634SP
Q306	8-729-600-27	TRANSISTOR 2SC634SP
Q307	8-729-600-27	TRANSISTOR 2SC634SP
Q308	8-729-806-28	TRANSISTOR 2SC3402
Q501	8-729-806-38	TRANSISTOR 2SC3399
Q502	8-729-806-20	TRANSISTOR 2SA1345
Q503	8-729-806-38	TRANSISTOR 2SC3399
Q504	8-729-806-38	TRANSISTOR 2SC3399
Q505	8-729-806-20	TRANSISTOR 2SA1345
Q506	8-729-806-20	TRANSISTOR 2SA1345
Q507	8-729-178-54	TRANSISTOR 2SC2785
Q701	8-729-178-54	TRANSISTOR 2SC2785
Q702	8-729-178-54	TRANSISTOR 2SC2785
Q703	8-729-209-60	TRANSISTOR 2SB1375
Q704	8-729-117-54	TRANSISTOR 2SA1175
Q705	8-729-117-54	TRANSISTOR 2SA1175
Q706	8-729-209-15	TRANSISTOR 2SD2012

RESISTOR

R101	1-247-889-00	CARBON 270K 5% 1/4W
R102	1-249-404-00	(TC-W300) ....CARBON 82 5% 1/4W
R102	1-249-403-11	(TC-W190) ....CARBON 68 5% 1/4W
R103	1-249-426-11	CARBON 5.6K 5% 1/4W
R104	1-247-881-00	CARBON 120K 5% 1/4W
R106	1-247-889-00	CARBON 270K 5% 1/4W
R107	1-249-404-00	(TC-W300) ....CARBON 82 5% 1/4W
R107	1-249-403-00	(TC-W190) ....CARBON 68 5% 1/4W
R108	1-249-426-11	CARBON 5.6K 5% 1/4W
R109	1-247-881-00	CARBON 120K 5% 1/4W
R110	1-249-417-11	CARBON 1K 5% 1/4W
R111	1-247-856-00	(TC-W300) ....CARBON 11K 5% 1/4W
R111	1-249-430-11	(TC-W190) ....CARBON 12K 5% 1/4W
R112	1-249-431-11	CARBON 15K 5% 1/4W
R113	1-247-887-00	CARBON 220K 5% 1/4W
R120	1-249-433-11	CARBON 22K 5% 1/4W
R121	1-249-423-11	(TC-W300) ....CARBON 3.3K 5% 1/4W
R122	1-249-428-11	(TC-W300) ....CARBON 8.2K 5% 1/4W
R123	1-247-840-00	(TC-W300) ....CARBON 2.4K 5% 1/4W
R124	1-249-425-11	(TC-W300) ....CARBON 4.7K 5% 1/4W
R125	1-247-822-11	(TC-W300) ....CARBON 430 5% 1/4W
R126	1-249-427-11	(TC-W300) ....CARBON 6.8K 5% 1/4W
R127	1-249-415-11	(TC-W300) ....CARBON 680 5% 1/4W
R128	1-249-421-11	CARBON 2.2K 5% 1/4W
R129	1-249-425-11	CARBON 4.7K 5% 1/4W
R130	1-249-417-11	CARBON 1K 5% 1/4W
R131	1-249-429-11	CARBON 10K 5% 1/4W
R132	1-249-427-11	CARBON 6.8K 5% 1/4W
R133	1-249-422-11	CARBON 2.7K 5% 1/4W
R134	1-249-425-11	CARBON 4.7K 5% 1/4W
R135	1-249-437-11	CARBON 47K 5% 1/4W
R136	1-249-430-11	CARBON 12K 5% 1/4W
R144	1-249-429-11	CARBON 10K 5% 1/4W

Ref.No	Part No.	Description			
R145	1-249-433-11	CARBON	22K	5%	1/4W
R146	1-249-431-11	CARBON	15K	5%	1/4W
R147	1-249-409-11	CARBON	220	5%	1/4W
R151	1-249-429-11	CARBON	10K	5%	1/4W
R152	1-249-423-11	(TC-W300) ....CARBON	3.3K	5%	1/4W
R152	1-249-421-11	(TC-W190) ....CARBON	2.2K	5%	1/4W
R153	1-249-425-11	CARBON	4.7K	5%	1/4W
R154	1-249-425-11	CARBON	4.7K	5%	1/4W
R155	1-249-441-11	CARBON	100K	5%	1/4W
R156	1-249-441-11	CARBON	100K	5%	1/4W
R157	1-249-433-11	CARBON	22K	5%	1/4W
R161	1-249-441-11	(TC-W190) ....CARBON	100K	5%	1/4W
R162	1-249-417-11	(TC-W190) ....CARBON	1K	5%	1/4W
R163	1-249-429-11	(TC-W190) ....CARBON	10K	5%	1/4W
R164	1-249-425-11	(TC-W190) ....CARBON	4.7K	5%	1/4W
R165	1-249-231-11	(TC-W190) ....CARBON	3.3K	5%	1/4W
R166	1-249-428-11	(TC-W190) ....CARBON	8.2K	5%	1/4W
R201	1-247-889-00	CARBON	270K	5%	1/4W
R202	1-249-404-00	(TC-W300) ....CARBON	82	5%	1/4W
R202	1-249-403-11	(TC-W190) ....CARBON	68	5%	1/4W
R203	1-249-426-11	CARBON	5.6K	5%	1/4W
R204	1-247-881-00	CARBON	120K	5%	1/4W
R206	1-247-889-00	CARBON	270K	5%	1/4W
R207	1-249-404-00	(TC-W300) ....CARBON	82	5%	1/4W
R207	1-249-403-11	(TC-W190) ....CARBON	68	5%	1/4W
R208	1-249-426-11	CARBON	5.6K	5%	1/4W
R209	1-247-881-00	CARBON	120K	5%	1/4W
R210	1-249-417-11	CARBON	1K	5%	1/4W
R211	1-247-856-00	(TC-W300) ....CARBON	11K	5%	1/4W
R211	1-249-430-11	(TC-W190) ....CARBON	68	5%	1/4W
R212	1-249-431-11	CARBON	15K	5%	1/4W
R213	1-247-887-00	CARBON	220K	5%	1/4W
R220	1-249-433-11	CARBON	22K	5%	1/4W
R221	1-249-423-11	(TC-W300) ....CARBON	3.3K	5%	1/4W
R222	1-249-428-11	(TC-W300) ....CARBON	8.2K	5%	1/4W
R223	1-247-840-00	(TC-W300) ....CARBON	2.4K	5%	1/4W
R224	1-249-425-11	(TC-W300) ....CARBON	4.7K	5%	1/4W
R225	1-247-822-11	(TC-W300) ....CARBON	430	5%	1/4W
R226	1-249-427-11	(TC-W300) ....CARBON	6.8K	5%	1/4W
R227	1-249-415-11	(TC-W300) ....CARBON	680	5%	1/4W
R228	1-249-421-11	CARBON	2.2K	5%	1/4W
R229	1-249-425-11	CARBON	4.7K	5%	1/4W
R230	1-249-417-11	CARBON	1K	5%	1/4W
R231	1-249-429-11	CARBON	10K	5%	1/4W
R232	1-249-427-11	CARBON	6.8K	5%	1/4W
R233	1-249-422-11	CARBON	2.7K	5%	1/4W
R234	1-249-425-11	CARBON	4.7K	5%	1/4W
R235	1-249-437-11	CARBON	47K	5%	1/4W
R236	1-249-430-11	CARBON	12K	5%	1/4W
R244	1-249-429-11	CARBON	10K	5%	1/4W
R245	1-249-433-11	CARBON	22K	5%	1/4W
R246	1-249-431-11	CARBON	15K	5%	1/4W
R247	1-249-409-11	CARBON	220	5%	1/4W

R251	1-249-429-11	CARBON	10K	5%	1/4W
R252	1-249-421-11	(TC-W190) ....CARBON	2.2K	5%	1/4W
R252	1-249-423-11	(TC-W300) ....CARBON	3.3K	5%	1/4W
R253	1-249-425-11	CARBON	4.7K	5%	1/4W
R254	1-249-425-11	CARBON	4.7K	5%	1/4W
R255	1-249-441-11	CARBON	100K	5%	1/4W
R256	1-249-441-11	CARBON	100K	5%	1/4W
R257	1-249-433-11	CARBON	22K	5%	1/4W
R261	1-249-441-11	(TC-W190) ....CARBON	100K	5%	1/4W
R262	1-249-417-11	(TC-W190) ....CARBON	1K	5%	1/4W
R263	1-249-429-11	(TC-W190) ....CARBON	10K	5%	1/4W
R264	1-249-425-11	(TC-W190) ....CARBON	4.7K	5%	1/4W
R265	1-249-423-11	(TC-W190) ....CARBON	3.3K	5%	1/4W
R266	1-249-428-11	(TC-W190) ....CARBON	8.2K	5%	1/4W
R301	1-249-409-11	CARBON	220	5%	1/4W
R302	1-249-409-11	CARBON	220	5%	1/4W
R303	1-249-409-11	CARBON	220	5%	1/4W
R304	1-249-409-11	CARBON	220	5%	1/4W
R305	1-247-733-11	(TC-W300) ....CARBON	33	5%	1/2W
R305	1-247-739-11	(TC-W190) ....CARBON	100	5%	1/2W
R306	1-247-733-11	(TC-W300) ....CARBON	33	5%	1/2W
R306	1-247-739-11	(TC-W190) ....CARBON	100	5%	1/2W
R307	1-215-460-00	(TC-W190) ....METAL	43K	5%	1/6W
R307	1-215-469-00	(TC-W300) ....METAL	100K	1%	1/6W
R310	1-247-864-11	CARBON	24K	5%	1/4W
R311	1-249-439-11	CARBON	68K	5%	1/4W
R312	1-249-439-11	CARBON	68K	5%	1/4W
R313	1-247-883-00	CARBON	150K	5%	1/4W
R314	1-249-441-11	CARBON	100K	5%	1/4W
R315	1-249-436-11	CARBON	39K	5%	1/4W
R316	1-247-872-11	CARBON	51K	5%	1/4W
R317	1-247-887-00	CARBON	220K	5%	1/4W
R318	1-249-440-11	CARBON	82K	5%	1/4W
R319	1-249-441-11	CARBON	100K	5%	1/4W
R320	1-249-440-11	CARBON	82K	5%	1/4W
R321	1-247-872-11	CARBON	51K	5%	1/4W
R322	1-249-439-11	CARBON	68K	5%	1/4W
R323	1-247-887-00	CARBON	220K	5%	1/4W
R324	1-247-883-00	CARBON	150K	5%	1/4W
R325	1-249-438-11	CARBON	56K	5%	1/4W
R326	1-249-436-11	CARBON	39K	5%	1/4W
R327	1-247-874-11	CARBON	62K	5%	1/4W
R328	1-247-876-11	CARBON	75K	5%	1/4W
R329	1-247-881-00	CARBON	120K	5%	1/4W
R330	1-249-439-11	CARBON	68K	5%	1/4W
R331	1-249-437-11	CARBON	47K	5%	1/4W
R332	1-249-434-11	CARBON	27K	5%	1/4W
R333	1-249-436-11	CARBON	39K	5%	1/4W
R334	1-249-434-11	CARBON	27K	5%	1/4W
R335	1-249-441-11	CARBON	100K	5%	1/4W
R336	1-249-441-11	CARBON	100K	5%	1/4W
R337	1-249-435-11	CARBON	33K	5%	1/4W
R338	1-249-434-11	CARBON	27K	5%	1/4W
R339	1-249-438-11	CARBON	56K	5%	1/4W
R340	1-249-437-11	CARBON	47K	5%	1/4W
R341	1-249-441-11	CARBON	100K	5%	1/4W






Ref.No	Part No.	Description			
R342	1-247-881-00	CARBON	120K	5%	1/4W
R343	1-249-434-11	CARBON	27K	5%	1/4W
R344	1-249-433-11	CARBON	22K	5%	1/4W
R345	1-249-439-11	CARBON	68K	5%	1/4W
R346	1-247-872-11	CARBON	51K	5%	1/4W
R347	1-249-437-11	CARBON	47K	5%	1/4W
R348	1-249-441-11	CARBON	100K	5%	1/4W
R349	1-249-441-11	CARBON	100K	5%	1/4W
R351	1-249-429-11	CARBON	10K	5%	1/4W
R352	1-249-417-11	CARBON	1K	5%	1/4W
R353	1-249-433-11	CARBON	22K	5%	1/4W
R354	1-249-433-11	CARBON	22K	5%	1/4W
R355	1-249-393-11	CARBON	10	5%	1/4W
R356	1-249-425-11	CARBON	4.7K	5%	1/4W
R357	1-249-429-11	CARBON	10K	5%	1/4W
R358	1-249-424-11	CARBON	3.9K	5%	1/4W
R359	1-249-413-11	CARBON	470	5%	1/4W
R361	1-249-404-00	CARBON	82	5%	1/4W
R362	1-249-433-11	CARBON	22K	5%	1/4W
R363	1-249-433-11	(TC-W300) ....CARBON	22K	5%	1/4W
R364	1-249-437-11	CARBON	47K	5%	1/4W
R365	1-249-437-11	(TC-W300) ....CARBON	47K	5%	1/4W
R501	1-249-433-11	CARBON	22K	5%	1/4W
R502	1-249-433-11	CARBON	22K	5%	1/4W
R503	1-249-437-11	CARBON	47K	5%	1/4W
R504	1-249-437-11	CARBON	47K	5%	1/4W
R505	1-249-429-11	CARBON	10K	5%	1/4W
R506	1-249-435-11	CARBON	33K	5%	1/4W
R507	1-249-431-11	CARBON	15K	5%	1/4W
R508	1-249-437-11	CARBON	47K	5%	1/4W
R511	1-249-409-11	CARBON	220	5%	1/4W
R512	1-249-433-11	CARBON	22K	5%	1/4W
R513	1-249-433-11	CARBON	22K	5%	1/4W
R515	1-249-433-11	CARBON	22K	5%	1/4W
R521	1-249-421-11	CARBON	2.2K	5%	1/4W
R522	1-249-407-11	CARBON	150	5%	1/4W
R523	1-249-421-11	CARBON	2.2K	5%	1/4W
R524	1-249-407-11	CARBON	150	5%	1/4W
R531	1-249-413-11	CARBON	470	5%	1/4W
R532	1-249-413-11	CARBON	470	5%	1/4W
R533	1-249-413-11	CARBON	470	5%	1/4W
R701	1-249-421-11	CARBON	2.2K	5%	1/4W
R702	1-249-421-11	CARBON	2.2K	5%	1/4W
R703	1-249-421-11	CARBON	2.2K	5%	1/4W
R704	1-249-421-11	CARBON	2.2K	5%	1/4W
R705	1-249-421-11	CARBON	2.2K	5%	1/4W
R706	1-249-409-11	CARBON	220	5%	1/4W
R707	1-249-423-11	CARBON	3.3K	5%	1/4W
R708	1-249-423-11	CARBON	3.3K	5%	1/4W
R709	1-249-424-11	CARBON	3.9K	5%	1/4W
RV101	1-228-994-00	RES, ADJ, CARBON 10K			
RV102	1-228-994-00	RES, ADJ, CARBON 10K			
RV103	1-228-994-00	RES, ADJ, CARBON 10K			
RV201	1-228-994-00	RES, ADJ, CARBON 10K			
RV202	1-228-994-00	RES, ADJ, CARBON 10K			
RV203	1-228-994-00	RES, ADJ, CARBON 10K			
RV301	1-238-261-11	RES, VAR, CARBON 50K/50K (BALANCE)			
RV302	1-238-260-11	RES, VAR, CARBON 20K/20K (REC LEVEL)			
RV501	1-228-990-00	RES, ADJ, CARBON 1K			
RV502	1-228-990-00	RES, ADJ, CARBON 1K			
RV503	1-228-990-00	RES, ADJ, CARBON 1K			
RV504	1-228-990-00	RES, ADJ, CARBON 1K			
RY301	1-515-614-11	RELAY			

Ref.No	Part No.	Description
S301	1-571-510-11	SWITCH, PUSH (1 KEY) (DOLBY NR ON/OFF)
S302	1-571-510-11	(TC-W300)....SWITCH, PUSH (1 KEY) DOLBY NR TYPE B/C)
S303	1-571-627-11	SWITCH, SLIDE (DECK A TAPE SELECT)
S304	1-571-628-11	SWITCH, SLIDE (DECK B TAPE SELECT)
S501	1-571-510-11	SWITCH, PUSH (1 KEY) (DUBBING SPEED)
S701	1-570-393-11	SWITCH, PUSH (1 KEY) (POWER)
SPK101	1-235-186-00	ENCAPSULATED COMPONENT
SPK201	1-235-186-00	ENCAPSULATED COMPONENT
T301	1-433-303-11	TRANSFORMER, BIAS OSCILLATION
T901	△1-448-804-11	(TC-W300 ; US, Canadian/TC-W190) ....TRANSFORMER, POWER
T901	△1-448-805-11	(TC-W300 ; AEP,UK)....TRANSFORMER, POWER

## ACCESSORY & PACKING MATERIAL

Part No.	Description	Remark
1-559-533-11	CORD, CONNECTION	
*3-346-344-01	CUSHION	
*3-346-378-21	(TC-W300)....INDIVIDUAL CARTON	
*3-346-378-31	(TC-W190)....INDIVIDUAL CARTON	
3-703-450-01	(TC-W300 ; US/TC-W190)....INSTRUCTION	
*3-704-343-01	SHEET (STANDARD), PROTECTION	
3-786-251-11	(TC-W300 ; AEP, Canadian)....MANUAL, INSTRUCTION	
3-786-251-21	(TC-W300 ; US, UK)....MANUAL, INSTRUCTION	
3-786-251-41	(TC-W300 ; AEP)....MANUAL, INSTRUCTION	
3-786-251-51	(TC-W190)....MANUAL, INSTRUCTION	

**Note:**  
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

**Note:**  
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.